

**WHAT IS CLAIMED IS:**

1. A method for manufacturing a magnetic recording medium comprising:  
laminating a non-magnetic under-layer on a non-magnetic substrate;  
laminating a magnetic layer on said under-layer by
  - (i) exposing to an atmosphere of oxygen-containing gas and forming an oxide layer on a surface,
  - (ii) depositing a magnetic layer component comprising ferromagnetic grains and grain boundaries surrounding said grains,
  - (iii) repeating the procedures (i) and (ii) predetermined times, and
  - (iv) exposing to said atmosphere of oxygen-containing gas and forming an oxide layer on a surface;laminating a protective film on said magnetic layer; and  
laminating a liquid lubricant layer on said protective film.
2. The method for manufacturing a magnetic recording medium according to claim 1, wherein each step is performed without heating said substrate in advance.